



# AMAZON MALARIA INITIATIVE

## Malaria in Low-Incidence Settings

### VECTOR SURVEILLANCE AND CONTROL

April 2016

Vector surveillance and control are key components of malaria prevention strategies. However, determining appropriate vector surveillance and control activities in areas of low malaria transmission (see Table 1) can be a challenge. National Malaria Control Programs (NMCPs) and vector control authorities need to adapt their strategies according to the transmission intensity and local vector characteristics.

**Table 1. Malaria Transmission Classifications**

Epidemiological Situation	Annual Parasite Incidence (API)
High transmission	>10 cases /10,000 persons
Moderate transmission	1 – 10 cases /10,000 persons
Low transmission	<1 case /10,000 persons
No transmission	No evidence of local transmission



Photo: PAHO/WHO

Areas with decreasing malaria transmission are at risk of resurgence due to financial and operational constraints that tend to weaken surveillance, prevention, and control activities. In order to reduce a community's risk, WHO currently recommends maintaining vector surveillance and considering the continuation of standard malaria vector control tools including insecticide treated nets (ITNs) and indoor residual spraying (IRS) of insecticides in areas with ongoing malaria transmission. The implementation of these vector control interventions should be monitored routinely (some key operational indicators are listed in Table 2).

With regard to vector surveillance in low to very low malaria transmission settings, entomological monitoring should ideally be conducted twice a year during the transmission season. The minimum entomological indicators that should be monitored in low to very low malaria transmission settings include measures of vector species composition and abundance, as well as insecticide resistance (see Table 2).

The collection of entomological data should use an approach based on sentinel sites with appropriate, standardized methodologies. Sentinel sites should be representative of the eco-epidemiological settings present in the region. If there is a significant increase in an area's malaria transmission rate, collection frequency and number of sites should be increased accordingly.

Where no vector control measures are implemented and resources are limited, efforts should focus on providing prompt diagnosis and treatment to the human population.

**Table 2. Recommended indicators for areas with low to very low malaria transmission**

Entomological	Presence of vectors and species composition
	Relative abundance of vectors
	Insecticide susceptibility
Operational*	Household ownership of ITNs
	Sufficient household ownership of ITNs
	ITN use
	ITN survivorship
	ITN insecticide levels
	ITN physical durability
	IRS coverage
	Insecticidal effect on sprayed surfaces
	Dosage and quality of insecticide

\*Depending on the vector control intervention(s) in use

If an area achieves zero transmission, it is recommended that the same entomological indicators be monitored at least once a year, since a risk of malaria reintroduction exists as long as competent vectors are present. If vector control interventions are ongoing, operational indicators should be monitored.

In general, vector surveillance and control should remain a part of national malaria control strategies for the long-term, with activities continually adapted to the changing epidemiology of malaria.



Photos: PAHO/WHO

Content adapted from the *Amazon Malaria Initiative Strategic Orientation Document for Malaria Vector Surveillance and Control in Latin America and the Caribbean* (2011).